Short Communication

Preparation of Carbon Nanotube/MnO₂ Nanocomposite as an Electrode Modifier for Prostate-Specific Antigen (PSA) Determination

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In this study, prostate-specific antigen (PSA) was determined based on a selective and sensitive electrochemical sensor by utilizing nanotechnology and a surface imprinting strategy. Manganese nanoparticle-decorated multiwalled carbon nanotubes (MWCNTs) were used as a nano-iniferter for the construction of a three-dimensional molecularly imprinted polymer matrix for PSA detection using controlled radical polymerization. The differential pulse stripping voltammetric and square wave techniques were used to confirm the excellent analytical behaviour of our sensor towards PSA determination.

Keywords: Prostate specific antigen; Imprinting and nanotechnology; Multiwalled carbon nanotubes; Electrochemical determination; Manganese nanoparticles

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